WHAT IS CLAIMED IS:

1. A display apparatus comprising plural display units, wherein each of the display units comprises a light guide plate for transmitting light therethrough, and a display element which is provided opposite to one plate surface of said light guide plate, said display element comprising a driving portion provided with actuator portions of a number corresponding to that of a number of pixels, said display element causing the light guide plate to display a video image according to an inputted image signal, by introducing light into the light guide plate and controlling displacement operations in contact and separation directions of the actuator portion with respect to the light guide plate according to properties of the image signal, and thereby controlling leakage light in a predetermined region of the light guide plate, and wherein the plural display units are joined and arranged so as to form a predetermined angle relative to each other.

2. A display apparatus according to claim 1, wherein the plural display units are joined so that the light guide plates of the display units, which are arranged adjacent to each other, form video image display surfaces that appear as if they are in one plane.

3. A display apparatus according to claim 1 or 2, wherein a joint angle of the display units is set to an angle at which a joint portion of said display units protrudes away from a viewer.

4. A display apparatus according to claim 1 or 2, wherein a joint angle of the display units is set to an angle at which a joint portion of said display units protrudes toward a viewer.

5. A display apparatus according to any one of claims 1-4, further comprising a reflector that is arranged along a side of the light guide plate in a joint portion of the display units.

6. A display apparatus according to claim 5, further comprising a light source that is arranged between the side of the light guide plate and the reflector.

7. A display apparatus according to any one of claims 1-6, further comprising a reflector that is arranged along that side of the light guide plate, which is remote from a joint portion of the display units.

8. A display apparatus according to claim 7, further comprising a light source that is arranged between said side of the light guide plate and the reflector.

9. A display apparatus according to any one of claims 1-8, further comprising a reflector that is arranged along top and/or bottom of the light guide plate.

10. A display apparatus according to claim 9, further comprising a light source that is arranged between the top and/or bottom of the light guide plate and the reflector at said top and/or bottom.

11. A display apparatus according to any one of claims 1-4 or 7-10, further comprising a columnar transparent body that is arranged along the side of the light guide plate in a joint portion of the display units, said columnar transparent body being out of contact with said side of the light guide plate.

12. A display apparatus according to claim 11, further comprising light absorption layers on upper and lower surfaces of the transparent body.

13. A display apparatus according to any one of claims 1-4, wherein the light guide plate is of a wedge-like sectional shape having a thickness that decreases gradually toward a joint portion of the display units.

14. A display apparatus according to claim 13, further comprising a reflector that is arranged on that side of the light guide plate, which is in the joint portion of the display units.

15. A display apparatus according to claim 13 or 14, further comprising a light source and a reflector both arranged along that side of the light guide plate, which is remote from the joint portion of the display units.

16. A display apparatus as in one of claims 13-15, further comprising a light source and a reflector both arranged along a top and/or a bottom of the light guide plate.

17. A display apparatus comprising a display unit, wherein the display unit comprises a light guide plate for transmitting light therethrough, and a display element which is provided opposite to one plate surface of said light guide plate, said display element comprising a driving portion provided with actuator portions of a number corresponding to that of a number of pixels, said display element causing the light guide plate to display a video image according to an inputted image signal, by introducing light into the light guide plate and controlling displacement operations in contact and separation directions of the actuator portion with respect to the light guide plate according to properties of the image signal, and thereby controlling

leakage light in a predetermined region of the light guide plate, and wherein the light guide plate is formed as a curved surface having a predetermined curvature.

18. A display apparatus according to claim 17, further comprising a light source and/or a reflector, which is arranged along the side, the top and/or the bottom of the light guide plate.

19. A display system comprising plurality of display apparatuses according to any one of claims 1-18, wherein plurality of said display apparatuses are combined with each other to form a structural body having a desired three-dimensional shape.

20. A display system according to claim 19, wherein the light guide plates of the structural body having said three-dimensional shape are combined with each other to form a video image display plane on an inner surface of a planetarium.

21. A display apparatus comprising a display unit, wherein the display unit comprises a light guide plate for transmitting light therethrough, and a display element which is provided opposite to one plate surface of said light guide plate, said display element comprising a driving portion provided with actuator portions of a number corresponding to that of a number of pixels, said display element causing the light guide plate to display a video image according to an inputted image signal, by introducing light into the light guide plate and controlling displacement operations in contact and separation directions of the actuator portion with respect to the light guide plate according to properties of the image signal, and thereby controlling leakage light in a predetermined region of the light guide plate, and wherein the display unit is arranged to extend with a continuous band shape on a wall of a passage along which people traffic.

22. A display apparatus according to claim 21, further comprising a sensor for detecting traffic of people, said display apparatus being so arranged as to display a video image on the light guide plate, when the sensor detects traffic of people.

23. A display apparatus comprising a display unit, wherein the display unit comprises a light guide plate for transmitting light therethrough, and a display element which is provided opposite to one plate surface of said light guide plate, said display element comprising a driving portion provided with actuator portions of a number corresponding to that of a number of pixels, said display element causing the light guide plate to display a video image according to an inputted image signal, by introducing light into the light guide plate and controlling displacement operations in

contact and separation directions of the actuator portion with respect to the light guide plate according to properties of the image signal, and thereby controlling leakage light in a predetermined region of the light guide plate, and wherein the light guide plate forms a video image display surface in a cinema complex.

24. A display apparatus comprising plural display units, wherein each of the display unit comprises a light guide plate for transmitting light therethrough, and a display element which is provided opposite to one plate surface of said light guide plate, said display element comprising a driving portion provided with actuator portions of a number corresponding to that of a number of pixels, said display element causing the light guide plate to display a video image according to an inputted image signal, by introducing light into the light guide plate and controlling displacement operations in contact and separation directions of the actuator portion with respect to the light guide plate according to properties of the image signal, and thereby controlling leakage light in a predetermined region of the light guide plate, and wherein the display element and the light guide plate have desired shapes, respectively, and the display apparatus has a desired shape by arranging the display element in close contact with a back side of the light guide plate with a desired configuration.

25. A display apparatus comprising plural display units, wherein each of the display unit comprises a light guide plate for transmitting light therethrough, and a display element which is provided opposite to one plate surface of said light guide plate, said display element comprising a driving portion provided with actuator portions of a number corresponding to that of a number of pixels, said display element causing the light guide plate to display a video image according to an inputted image signal, by introducing light into the light guide plate and controlling displacement operations in contact and separation directions of the actuator portion with respect to the light guide plate according to properties of the image signal, and thereby controlling leakage light in a predetermined region of the light guide plate, and wherein the display element is arranged in close contact with a desired position on a back side of the light guide plate, and at least one of a blank region, a light emission body, a scattering body and a light absorbing body is arranged at other desired position or positions on the back side of the light guide plate.

26. A display apparatus according to claim 25, wherein at least one of said

light emission body, white scattering body and light absorbing body is arranged directly on a backside of the light guide plate.

27. A display apparatus according to claim 25, wherein at least one of said light emission body, white scattering body and light absorbing body is arranged on a back side of a light guide support made of a material having a refractive index close to that of the light guide plate which is a component of the display elements, and wherein said light guide support is arranged in tight contact with, or at a distance from a backside of the light guide plate.

28. A display apparatus according to claim 25, wherein said blank region is formed by a hollow region of the light guide plate.

29. A display apparatus according to claim 25, wherein the light guide support is arranged in the blank region, on a backside of the light guide plate.

30. A display apparatus comprising plural display units, wherein each of the display unit comprises a light guide plate for transmitting light therethrough, and a display element which is provided opposite to one plate surface of said light guide plate, said display element comprising a driving portion provided with actuator portions of a number corresponding to that of a number of pixels, said display element causing the light guide plate to display a video image according to an inputted image signal, by introducing light into the light guide plate and controlling displacement operations in contact and separation directions of the actuator portion with respect to the light guide plate according to properties of the image signal, and thereby controlling leakage light in a predetermined region of the light guide plate, and wherein said display elements include display elements having different color and/or different pixel area and/or different pixel pitch, and said display elements are arranged on a backside of the same light guide plate.

31. A display apparatus according to claim 30, wherein said display elements include display elements having a large pixel area that is black-and-white or monochromatic, forming a black-and-white or monochromatic high-brightness message display region, and display elements having a small pixel area of three primary colors, forming a high definition color image display region.

32. A display apparatus comprising plural display units, wherein each of the display unit comprises a light guide plate for transmitting light therethrough, and a display element which is provided opposite to one plate surface of said light guide

plate, said display element comprising a driving portion provided with actuator portions of a number corresponding to that of a number of pixels, said display element causing the light guide plate to display a video image according to an inputted image signal, by introducing light into the light guide plate and controlling displacement operations in contact and separation directions of the actuator portion with respect to the light guide plate according to properties of the image signal, and thereby controlling leakage light in a predetermined region of the light guide plate, and wherein said display elements are arranged on backsides of the light guide plates, and the light guide plates are so arranged as to display portions of a video image from the same image signal source, respectively.